MANAGEMENT OF CUTANEOUS LESIONS - HEAD AND NECK

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CERTIFICATE

This is to certify that this dissertation entitled **"MANAGEMENT OF CUTANEOUS LESIONS - HEAD AND NECK"** submitted by **Dr.Sutha S Sellamoni S.K.S,** to the Department of Burns,Plastic and Reconstructive Surgery, Kilpauk Medical College, Chennai - 600010 of the Tamilnadu Dr.MGR Medical University, Guindy , Chennai - 600032, in partial fulfillment of the requirement for the award of **MCh Degree Branch III** (Plastic and Reconstructive Surgery) is a bonafide work carried out by her under my direct supervision and guidance.

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CONTENTS

ABSTRACT

MANAGEMENT OF CUTANEOUS LESIONS HEAD AND NECK

AIM OF THE STUDY

1. To identify the various cutaneous lesions of the head and neck reporting to our department.
2. To analyse the various treatment and reconstructive options available and their applications in the above patients.
3. To analyse the outcome of the surgical procedure.

STUDY PERIOD

September 2009 to February 2012

MATERIALS AND METHODS

This work includes the study of patients with the diagnosis of cutaneous lesions of head and neck who were subjected to surgical management and their defects reconstructed. Inpatients and outpatients in all age groups were studied.

METHODOLOGY

This includes obtaining information from patients, thorough clinical examinations, necessary investigation, preoperative assessment and operability.

No grants or external funds were used for this study. Permission to carry out the study was obtained from the Ethical Committee.

FOLLOW UP

The patients were discharged after surgical management and advised to follow up after fifteen days, one month, three months, six months and one year.

RESULT

In the cutaneous lesions of head and neck region seen in our study majority were benign (88%) and malignant lesions were only 12%. Benign lesions occur in the age group of 10 – 40 years (72%) and malignant lesions were above 40 years. Majority of the malignant cutaneous lesions were basel cell carcinoma and majority occurs between 40 – 70 years with female preponderance. Overall surgical procedures done for benign and malignant lesions were as follows. 75% of patients had excision and primary closure. 8% of the patients had excision and local flap cover. 2% of the patients had excision and regional flap cover. 2% of the patients had excision and skin grafting. 4% of patients had diathermy excision for wart. 5% of the patients had intralesional sclerosant injection for hemangiomas and 4% of the patients had intralesional steroids for keloid of earlobule.

Outcome

Satisfactory aesthetic outcome observed in 88% of patients and unsatisfactory in 12 patients.

Key words

Benign, carcinoma, graft, flap, cutaneous

AIM AND OBJECTIVES

1. To identify the various cutaneous lesions of the head and neck reporting to our department.
2. To analyse the various treatment and reconstructive options available and their applications in the above patients.
3. To analyse the outcome of the surgical procedure done

INTRODUCTION

The patients with cutaneous lesions in head and neck region seek reconstruction to cover the defect with good result. The priority of reconstruction is complete tumor resection at the first instant and followed with possible reconstruction.

Tumor biology is understood to get the best possible anatomic functional and aesthetic results.

Face and it's features have been subjects of poetic and artistic endeavors throughout the ages. Because a person's face is highly visible and difficult to camouflage any lesions, scars or imperfections which are obvious to others may be distressing to the affected individual. Surgical planning and skill will have physical and psychological implications for the patients. So in these patients, a surgeon's goal is to achieve tumor free margin, to avoid unsightly scar while using the simplest and most effective reconstructive approach.

REVIEW OF LITERATURE

HISTORY

In 1861, LANGER[12] published his “Proceedings of the Society for Natural History of Vienna”, his monumental work on skin tension lines. If the incisions were practiced across these lines, the scars were more visible and broader, concluding thereby that all planned incisions should follow the direction of those lines. In March 1948, RUBIN[9] published the work entitled “Langer’s lines and facial scars”, where, after an introduction in which he reviews LANGER’s theory, he insists on the fact, dubious in RUBIN’s opinion, that “the muscle is arranged in the same direction as the lines, cancelling the tension on the wound’s border, resulting in a finer scar (LANGER)”.

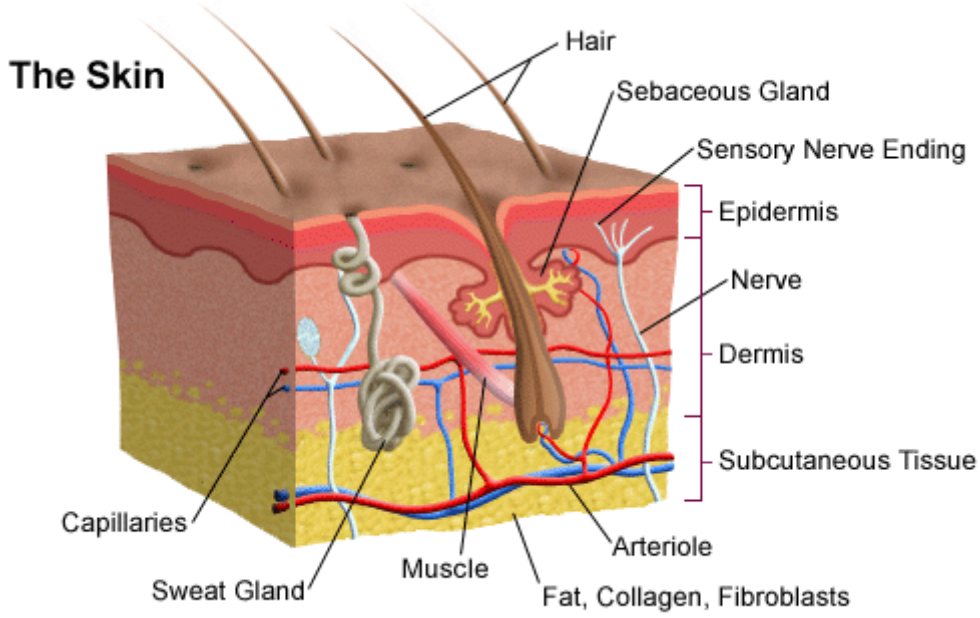
“Moreover, in a normal linear scar, collagen is oriented in the longitudinal direction of the scar, whether it is parallel to the wrinkle lines or not. In 1961, A.W. BULACIO NUNEZ, presented “New procedure for researching the skin’s tension lines”.

In July 1962, BORGES and ALEXANDER[1] publish a study on “Relaxed skin tension lines, Zetaplasties on scars and fusiform excisions of lesions” which starts by saying “It is a well known fact that a scar, the

more it follows relaxed skin tension lines (RSTLs), commonly known as "the skin's tension lines", the better the functional and aesthetic. Results are. The 1961 study by HOLMSTRAND, LONGACRE and DeSTEFANO, which we have already commented on, supporting their decision to follow the wrinkle lines.

ANATOMY

Skin is comprised of two basic layers, the epidermis and the dermis. Skin lesions can be derived from any of the constituents of the skin[11].



EPIDERMIS

Composed of stratified squamous epithelium, it is derived from ectoderm. It is composed of five layers from deep to superficial stratum germinatum, stratum spinosum, stratum granulosum, stratum lucidum, stratum corneum.

SKIN LESIONS OF EPIDERMAL ORIGIN

1. Papilloma
    a. Basal Cell Papilloma – known as Seborrheic Keratosis

        Treatment – Curettage

    b. Squamous Pailloma – known as skin tags

        Treatment – Excision
2. Viral Wart – caused by HPV

    Treatment – cryotherapy, curettage

DERMIS

Accounts for 95 % of thickness of skin.

Dermis is composed of collagen fibers, elastin fibers, ground substance and vascular plexus

1. Papillary Dermis is superficial and contains more cells and finer collagen fibers.

2. Reticular Dermis is deeper and contains fewer cells and coarser collagen fibers.

HISTOLOGICAL CLASSIFICATION AND NOMENCLATURE OF TUMOURS OF THE SKIN[4]

I. EPITHELIAL TUMOURS AND TUMOUR- LIKE LESIONS

A. BASAL CELL TUMOUR(BASAL CELL CARCINOMA)

B. SQUAMOUS CELL CARCINOMA

C. PAPILLOMA

1. Squamous cell papilloma

2. Fibropapilloma

D. Sebaceous Gland Tumor

1. Sebaceous adenoma

2. Sebaceous carcinoma

3. Tumor- like hyperplasia

E. TUMOUR OF HEPATOID (PERIANAL) GLANDS

1. Adenoma of hepatoid glands

2. Carcinoma of hepatoid glands

3. Tumor-like hyperplasia

F. SWEAT GLAND TUMOUR

1. Papillary syring adenoma
2. Cystadenoma of apocrine sweat glands
3. Spiradenoma
4. Mixed tumor of apocrine sweat glands
5. Carcinoma of apocrine sweat glands
    a. Papillary carcinoma
    b. Tubular carcinoma
    c. Solid carcinoma
    d. Signet- ring- like carcinoma

G. TUMOUR OF HAIR FOLLICLE

1. Trichoepithelioma
2. Necrotizing and calcifying epithelioma(Mal-herbe)

H. INTRACUTANEOUS CORNIFYING EPITHELIOMA (“KERATOACANTHOMA”)

I. CYSTS

1. Epidermal cyst
2. Dermoid cyst
3. Follicular cyst
4. Cyst with epithelial proliferation

II. TUMOURS OF THE MELANOGENIC SYSTEM

A. BENIGN MELANOMA

1. Benign melanoma with junctional activity
2. Benign dermal melanoma
    a. Cellular type
    b. Fibromatous type

B. MALIGNANT MELANOMA

1. Epitheliod type
2. Spindle cell type
3. Epitheliod and spindle cell type
4. Dentritic and whorled type

III. TUMOURS OF SOFT (MESENCHYMAL) TISSUES

IV. SECONDARY TUMOURS

V. UNCLASSIFIED TUMOURS

BENIGN SKIN LESIONS OF DERMAL ORIGINS.

1. Trichoepithelioma – lesions from hair follicle

   Transluscent, pinky white nodules located around nose and mouth.

   Treatment – Excision

2. Cylindroma – lesions from eccrine glands.

   Known as turban tumor – occurs in scalp of elderly.

   Treatment - Excision

BENIGN PIGMENTED SKIN LESIONS.

MELANOCYTIC NEVI - may be benign or malignant.

BENIGN MELANOCYTIC LESIONS

1. Congenital – giant hairy nevus
2. Acquired – junctional nevus, compound nevus and intradermal nevus
3. Special nevi – Dysplastic nevus, halo nevus

MALIGNANT MELANOCYTIC LESIONS[11]

1. Melanoma accounts for 3% of all cancers.

2. Risk factors – premalignant lesions, previous melanoma, atypical nevus syndrome, sun burn, Fitz Patrick type 1 skin

3. Classification

    a. Clinical and histological

    b. Breslow thickness

    c. Clark level

    d. TNM staging

    e. Clinical staging

4. Prognosis

    a. Males, elderly have worst prognosis.

    b. Lesions on trunk, scalp, mucosa and perineum have worst prognosis.

    c. Acral lentiginous melanoma has poor prognosis.

    d. Mackie's checklist to identify melanoma

        Major signs – change in size, shape and colour.

        Minor signs – Diameter more than 5mm, inflammation, itching, crusting or bleeding.

5. Treatment

    a. Excision

I. Melanoma in situ – excision margin 5 to 10 mm

II. Melanoma with Breslow depth less than1 mm – excision margin1cm.

III. Melanoma with Breslow depth 1 to 2mm – excision margin 1 to 2 cms.

IV. Melanoma with Breslow depth more than 2mm.

Excision margin minimum 1cm.

Once the excision margin has been established the skin and subcutaneous tissue should be excised vertically. All tissues superficial to the deep fascia should then be removed.

b. Reconstruction may be

I. Direct closure

II. Skin graft

III. Flap

c. Patients with clinically palpable nodes

I. FNAC

II. Open biopsy

d. Patients with histological positive nodes

I. Staging investigations.

II. Block dissection

III. Elective lymph node dissection.

MALIGNANT NONMELANO CYTIC SKIN LESIONS

BASAL CELL CARCINOMA (BCC)[11]

95% occurs between 40 and 80 years.

85% occurs in the head and neck.

Classification

1. Localised
    a. Nodular
    b. Nodulo Cystic
    c. Micro nodular
    d. Pigmented
2. Superficial
    a. Superficial spreading
    b. Multi focal
3. Infiltrative
    a. Morpheaform

Of these nodular, nodulo cystic, superficial and morphic BCC are the most common and accounts for more than 90 % lesions.

Treatment

Excision with 2 to 3 mm margin.

Lesions with indistinct margins require wider excision.

5% of BCC will be incompletely excised.

Tumors located on the ear periauricular region, nose, temporal region, periocular region, mesolabial sulcus and upper lip (H-zone) have high recurrence rates and are cosmetically sensitive areas with the limited amount of surrounding tissues[3].

Excision and reconstruction in these areas are more complicated – insufficient resection.

1. Mohs Micro graphic surgery.
2. Radio therapy
3. Photodynamic therapy
4. Cryo therapy
5. Curettage
6. Intralesional interferon or BCG Vaccine.

According to the guidelines, excision of small (<20 mm) well-defined lesions with a 3 mm peripheral surgical margin will clear the tumour in 85% of cases. A> 4-5 mm peripheral margin will increase the peripheral clearance rate to approximately 95%, indicating that approximately 5% of small, well-defined BCCs extend over 4 mm beyond their apparent clinical margins.

Although guidelines indicate as 3 mm peripheral margin of excision in BCC < 2 cm, in our experience, a margin of less than 5 mm results in a high risk of incomplete excisions. Almost all the recurrences in our series (90%) occurred in noble areas, in which the peripheral margin was minimal. This indicates clearly that a minimum margin of excision (<3 mm) increases considerably the risk of relapse, even if the histology shows complete excision of lesion.

Similar data are reported by VGriffiths[13] et al. who stated that only 65% of BCC excisions had peripheral clearance margins in the range of 0.1-4.9 mm. According to Madan et al. a 4-5 mm surgical margin ensures peripheral clearance in roughly 95% of well-defined small basal-cell carcinomas.

So no way a margin of 3 mm can be considered adequate in BCC excision. This minimum margin may be considered for some particular areas as nose, eyelid, and lips, for a better functional and aesthetic result.

SQUAMOUS CELL CARCINOMA[11] (SCC)

SCC originates in the stratum spinosum of the epidermis.

The incidence of SCC is one quarter of BCC.

SCC often occurs in areas of abnormal skin containing – evidence of sun damage, keratin horns, areas of Leukoplakia areas of Bowens disease.

Presence of Keratin pearls is characteristic.

SCC may be well, moderately or poorly differentiated.

Bad prognostic indicators include increased depth of invasion, vascular invasion, perineural invasion and lymphocytic infiltration.

SCCs are prone to local recurrence and metastases.

Patients should be followed up regularly to check for local and regional recurrence.

Treatment

Excision - 0.5 to 1cm margin

VASCULAR ABNORMALITIES

Classification – by Mulliken and Glowacki[8]

1. Hemangiomas
2. Vascular Malformations

ISSAV CLASSIFICATION OF VASCULAR ANOMALIES[3]

1. Tumors
    a. Hemangioma
    b. Hemangio Endothelioma
    c. Angio Sarcoma
    d. Miscellaneous
2. Malformations
    a. Slow flow
        i. Capillary
        ii. Lymphatic
        iii. Venous
    b. Fast flow
        i. Arterial
        ii. Combined

HEMANGIOMAS

80% noticed within the first month of life. 60% occur in the head and neck. They are not usually present at birth. Females are three times more affected as males.

Complications

1. Intrinsic
    a. Bleeding
    b. Ulceration
    c. Infection
    d. Kasabach – Merritt phenomenon
2. Obstructive
    a. Visual
    b. Airway
    c. External Acoustic Meatus

Treatment

Usually treated conservatively.

Non-invasive

1. Systemic Steroids
2. Interferon Alpha 2a

3. Antiplatelet drugs - Aspirin

4. Compression, radio therapy and chemo therapy

Invasive Treatment

1. Intralesional steroid injection

2. Intralesional OK-432 injection

3. Intralesional injection of Sclerosing Agents

4. Surgical debulking

5. Laser treatment

6. Selective embolization

VASCULAR MALFORMATION

Classification – Low flow lesions and high flow lesions

Low flow lesions

1. Capillary malformations

Treatment – Pulse dye laser

2. Venus malformations – Cavernous Hemangiomas

Treatment – Intralesional Sclero Therapy and Surgical Resection

3. Lymphatic Malformations – Microcystic , Macrocystic and mixed.

Treatment – Intralesional Injection of OK-432, surgery

High Flow Lesions

1. Arterial Malformations
2. Arterio Venus Malformations

Treatment

Embolization followed by resection within 24 to 72 hours.

TREATMENT OPTIONS

Excision - Healing by secondary intention

Primary closure

Skin grafting

Local flaps

Distant pedicled flaps

Free tissue transfer

EXCISION AND DIRECT CLOSURE

Orientation of Elective Incision

In the nineteenth century Langer showed that circular wounds produced elliptical defects in cadaver skin. He believed that this occurred because the skin tension along the longitudinal axis of the ellipse exceeded that along the transverse axis.

Borges[2] has provided 36 descriptive terms for skin lines. They include RSTL - (Relaxed Skin Tension Lines) are parallel to the natural skin wrinkles and tend to be perpendicular to the fibers of the underlying muscle LMES (Line of Maximum Extensibility –these lie perpendicular to the RSTL and parallel to the fibers of the underlying muscle.

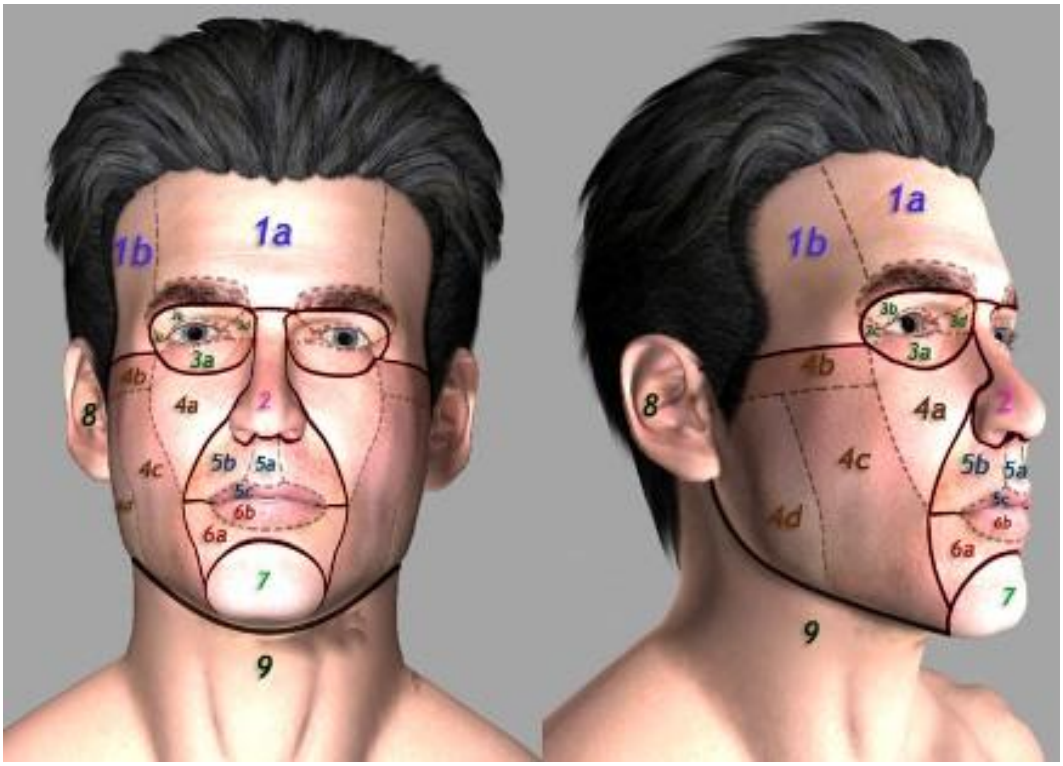
Elective incision or excision of lesion is planned when possible so that the final scars will be parallel to the RSTL[5]. Wrinkle lines are generally same as RSTL and lie perpendicular to the long axis of the underlying muscles. The direction of excision determines the eventual appearance of scar.

Incisions and scars can be hidden by placing them at the junction of aesthetic units.

FACIAL AESTHETIC UNITS[12]

The face consists of 6 major aesthetic units comprised of: forehead, eye/eyebrow, nose, lips, chin, and cheek. These aesthetic units can be subdivided into additional anatomical subunits. For example, the nose can be divided into nasal tip, dorsum, columella, soft-tissue triangles, sidewalls, and nasal alar regions. Correct orientation of planned incisions

next to these mobile functional and aesthetic facial structures is important to avoid distortion when closing wounds.



1- Forehead unit (1a central subunit; 1b lateral subunit 1c eyebrow subunit)

2- Nasal unit

3- Eye lid units (3a lower lid unit; 3b upper lid unit; 3c lateral canthal subunit; 3d medial canthal subunit)

4- Cheek unit (4a medial subunit; 4b zygomatic subunit; 4c lateral subunit; 4d buccal subunit)

5- Upper lip unit (5a philtrum subunit; 5b lateral subunit; 5c mucosal subunit)

6- Lower lip unit (6a central subunit; 6b mucosal subunit)

7- Mental unit

8- Auricular unit

9- Neck unit

SKIN GRAFTS[3]

Full thickness skin grafts contain the entire dermis and are usually harvested from areas with sufficient tissue laxity to permit direct closure of the donor defect.

Skin graft heals in four phases

1. Adherence
2. Serum Imbibition
3. Revascularisation
4. Remodeling

Skin Grafts used to cover the defect of head and neck are just as effective as local flaps and easier to perform. In fact FTSG from retroauricular area and supraclavicular area have better colour and

texture for use in face. FTSG do not have 100% survival rate. They often become paler or more pigmented than the surrounding skin and hence aesthetically not good. Cutaneous malignancies are best treated by excision and skin grafting. In FTSG colour and scar contracture related complications are the disadvantages.

LOCAL FLAPS[6]

In full thickness defect of the facial structures, flap reconstruction is mandatory. Functionally flaps are much better than grafts because little or no scar contractures occur. Thus ectropion, epiphora and loss of oral competence are prevented.

A Flap provides additional blood supply which is important for any reconstruction. Local flaps are easy to use in older patients because of lax skin availability. But much less so in children.

Advantages of using local flaps in head and neck

1. Similar colour and texture of the skin for the site of the defect.
2. Donor site frequently can be closed directly.
3. No scar contractures.
4. Survival not affected due to the underlying blood supply.

Disadvantage of local flaps

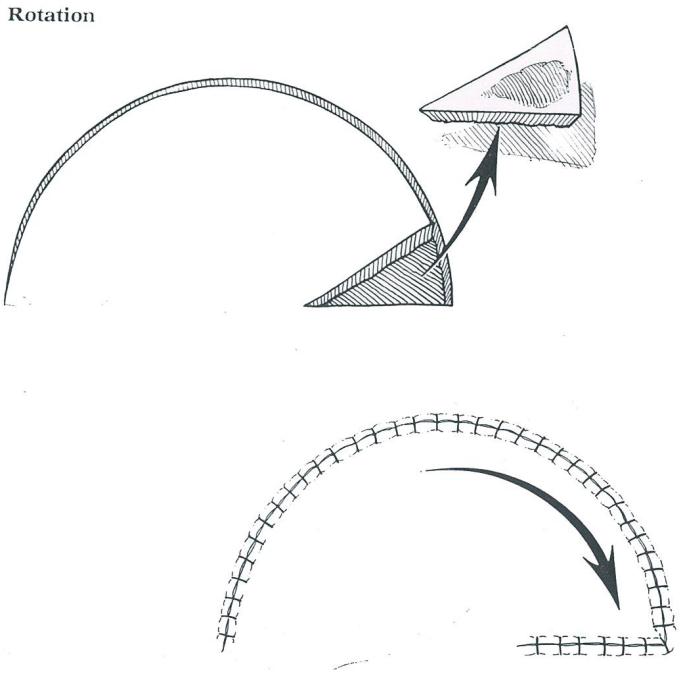
1. Requires planning and experience.
2. Flap may be too thick and bulky.
3. Flap should be of the same size and thickness as the defect. Otherwise problems will develop.
4. Preservation of local landmarks such as temporal hairline, eye brows and symmetry.
5. Use of local flap is more difficult in children because of lack of skin laxity.

LOCAL FLAPS – GENERAL PRINCIPLES

ROTATION FLAP[6]

In the rotation flap the surgeon triangulates the defect making the shortest side the base of the triangle. The base then forms a portion of the circumference of a circle and a flap is constructed so that it's leading tip will rotate around the circumference of the circle on which the triangular defect lies.

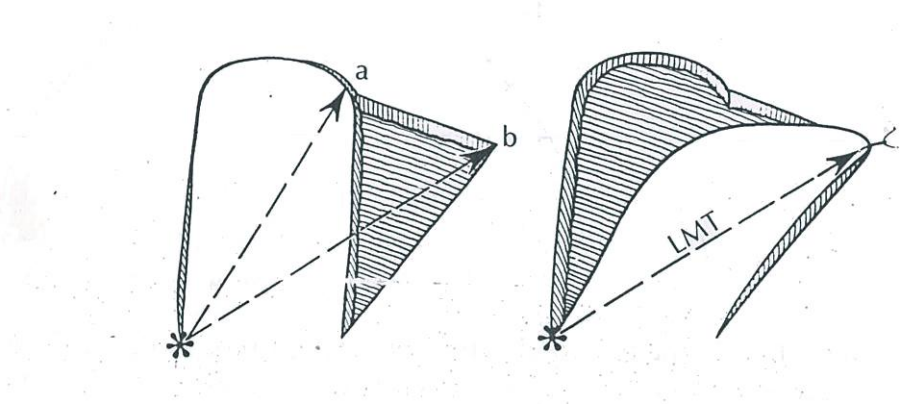
The base of the flap is the radius of the large circle. When the flap is elevated it can be rotated to close the defect. If rotation is not possible a back cut is necessary. This rotation flap works very well on convexities such as scalp or malar area. The edge of the flap is four to five times the length of the base of the defect triangle.



TRANSPOSITION FLAP[6]

It is a rectangle or square of skin and subcutaneous tissue that also is rotated about a pivot point into an immediately adjacent defect. The flap donor site is closed by skin grafting. The maximum possible transposition is 90 degrees from it's original position. A back cut can be used if the flap is under excessive tension. It can be used to close defect on the anterior cheek.

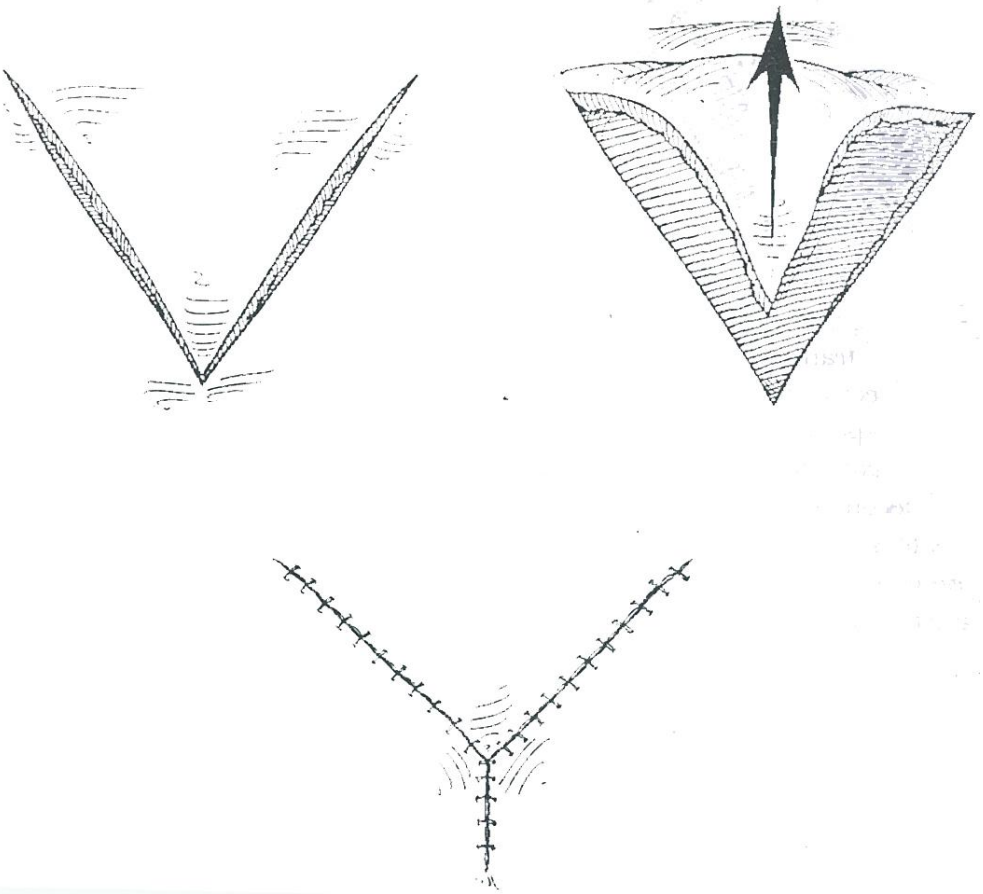
For small defect single transposition cheek flap, and for large defect double transposition flap can be used.

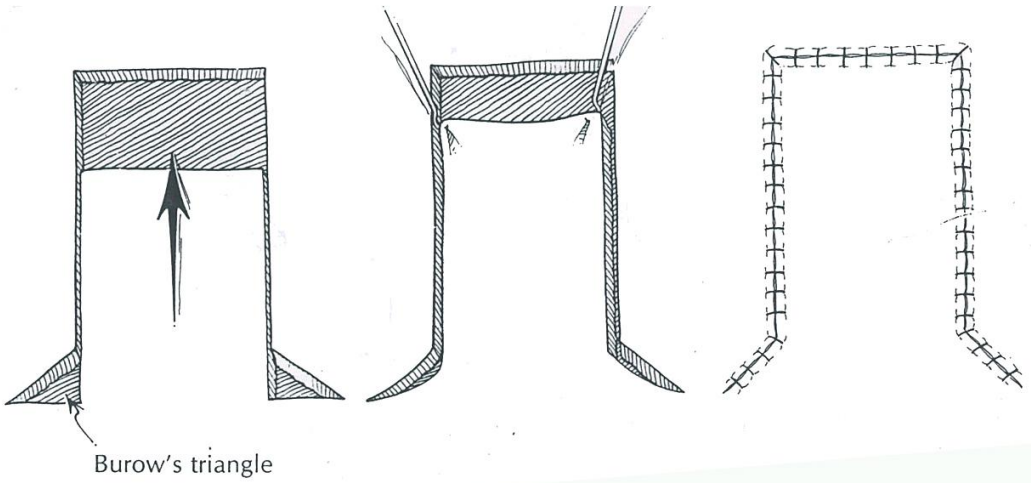


ADVANCEMENT FLAP[3]

It moves directly forward into a defect without any rotation or lateral movement. Advancement is done by taking advantage of skin elasticity, excising burrows triangles and pantographic expansion. Single pedicle advancement flap, bi pedicle advancement flap and VY advancement flap are the modifications. VY advancement flap used to lengthen structures like Columella, to eliminate minor notches of the lip and to close the donor site of skin flap.

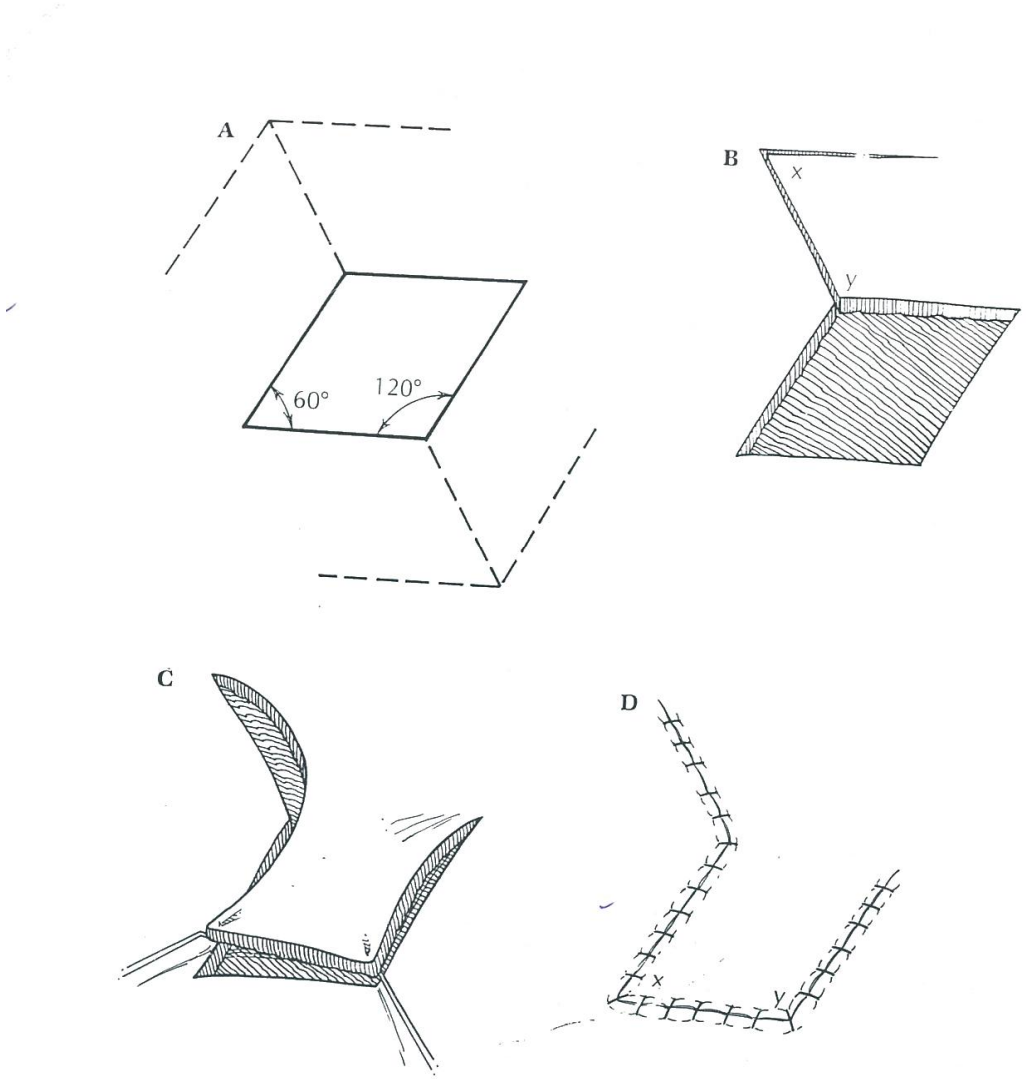
Advancement





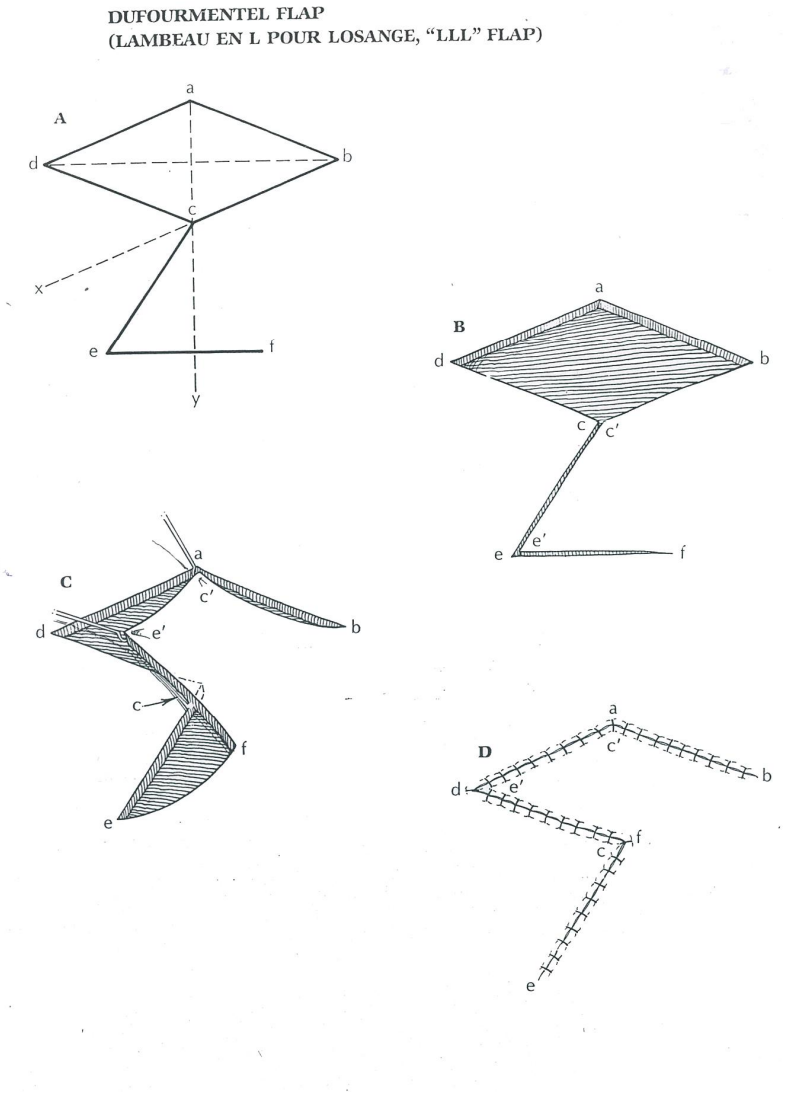
RHOMBOID (LIMBERG) FLAP[6]

Introduced by Limberg in 1946, this is a type of transposition flap. The rhomboid defect must have 60 and 120 degree angles. The flap is planned in an area of loose skin so that direct closure of the wound edges is possible. After the flap margins have been incised the flap is transposed into the Rhomboid defect.



DUFOURMENTEL FLAP[6]

Defourmentel flap was described by Defourmentel in 1962. It is a modification of the Rhomboid flap. It's narrow angle to be approximately 30 degrees and the wide angle 150 degrees. The angle found by this is bisected by a line that equals a side length. From the outer end of this line to form an acute angle the surgeon should draw another line of equal length parallel with the long diagonal.



BILOBED FLAP[6]

Described by Esser in 1918 in facial reconstruction it is most useful on the nose. This is basically a rotation flap that spreads the load. The planned defect is outlined and two flaps are drawn.

The width of flap one is slightly less than the diameter of the defect and that of flap two is correspondingly less than flap one. Each flap may rotate 90 degree or less. Test the tissue availability to assess the feasibility of the flap.

GLABELLAR FLAPS[6]

The glabellar donor area contains an abundant source of skin for resurfacing nasal defects. Because the skin in this area is thin, it provides a good colour and texture match for the upper nasal area. The glabellar flaps can be transfered in three ways; as a rotation flap, as a midline transposition flap, and as a island flap .The last two types are more flexible and can be enlarged and contoured as required. The classic glabllelar flap is a rotation flap that incorporates a V-Y advancement in the glabellar region. The lesion is resected in a triangular fashion. The flap is designed and is raised at the level just above the glabellar musculature. The movement of the flap is partly rotational, partly

transpositional. The donor defect is closed without difficulty and with only slight distortion of the medial end of the right eyebrow

Problems

1. Eyebrow hair is present in the glabellar region area and the rotation of this skin moves the hair bearing area down into the medial canthus.

2. The thickness of the glabellar skin is greater than that of the skin removed from the medial canthal area and this causes some convexity in this region.

PARAMEDIAN FOREHEAD FLAPS[10]

Midforehead flaps, which include the median and paramedian flaps and their many variations. It is based on a single supratrochlear artery, it has replaced the median forehead flap for nasal reconstruction because it has a more axial design, narrower base, and greater effective length .The design enables the simultaneous use of two vertically oriented forehead flaps. Removal of muscle and subcutaneous fat from the distal portion can make this flap thin, pliable and easily contoured to fit any defect of the nose. The attachment of the frontalis muscle to this flap is used when more bulk is required to fill defects of considerable depth. Proper thinning of the flap will ensure the shape and contour of the defect . The

supratrochlear artery travels superiorly in the subcutaneous or subdermal tissue plane from a point 1 cm superior to the level of the eyebrow. Hence no compromise of the flap's vasculature. The ability to modulate the thickness of the flap exactly match the thickness of the defect, greatly enhances the aesthetic result. When this flap is used as interpolated flaps, a second operation to separate the pedicle is required The pedicle may safely be divided just 10 to 14 days after flap transfer.

Disadvantage

1. Donor site scar
2. Two stage procedure

KELOID[11]

It is a locally raised itchy scar extending over normal tissue which may develop up to one year after injury and does not regress on it's own. This often results after minor trauma and can continue to spread for years. Simple surgical excision is often followed by recurrence. There may be genetic abnormality involved in keloid scarring. In minor keloid typical site includes earlobes.

Initial management – Silicon Gel Sheeting, Intralesional steroid injection, localized pressure therapy.

Secondary management – laser therapy, surgery with adjunctive silicon gel sheeting, occasionally cryo therapy, radio therapy and recently interferons.

MATERIALS AND METHODS

STUDY DESIGN

It is a prospective study carried out from September 2009 to February 2012.

PLACE OF STUDY

The study was carried out at the Department of Burns and Plastic and Reconstructive Surgery, Kilpauk Medical College, Chennai - 600010.

SELECTION OF PATIENTS

Patients with Cutaneous Lesions in head and neck regions were selected from outpatients and inpatients.

Brief clinical history and other details were collected as per proforma attached herewith.

INCLUSION AND EXCLUSION CRITERIA

All the patients with cutaneous lesions head and neck region who underwent surgery in our department.

Patients with cutaneous lesions other than head and neck region were excluded.

STUDY METHODS

All patients with cutaneous lesions of head and neck region were evaluated. Detailed information was recorded in a predesigned data collection sheet (Appendix 1). Information included was particulars of the patient clinical features, surgery done, and it's outcome. Permission to carry out the study was obtained from the Ethical Committee.

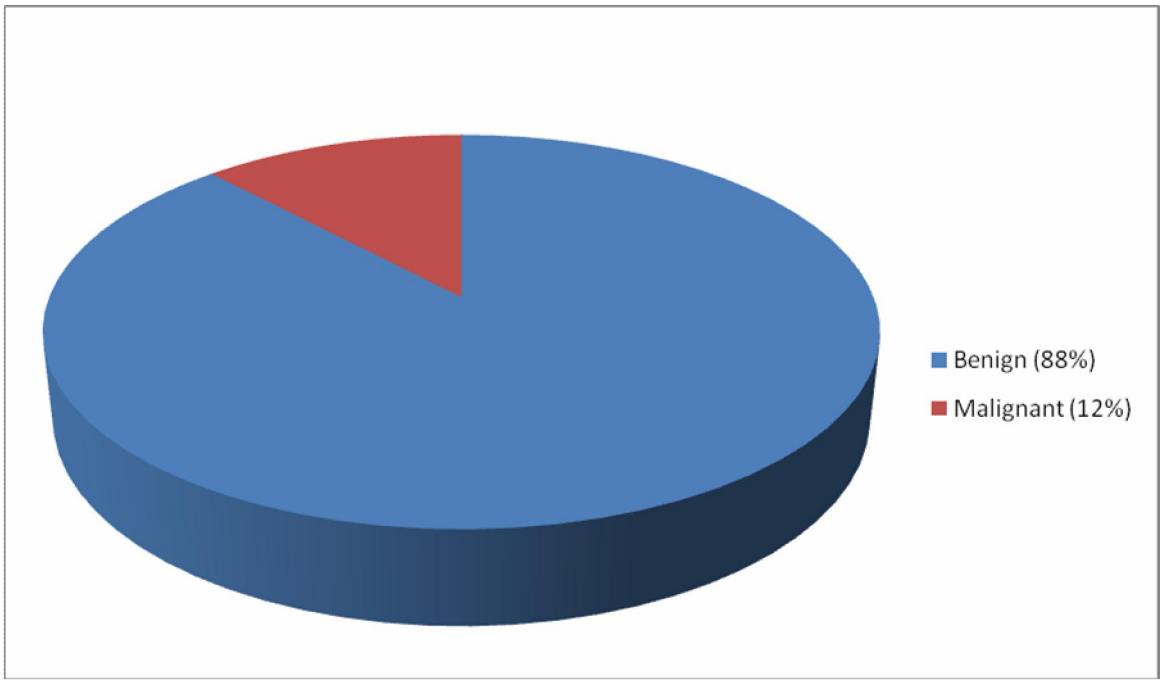
STATISTICAL ANALYSIS

The data obtained were compiled and analysed using standard statistical analysis.

OBSERVATION AND RESULTS

Total no of cases studied 100

TYPE OF CUTANEOUS LESIONS



TYPE OF BENIGN LESIONS

TYPE			NO OF CASES	PERCENTAGE
Congenital	Nevi		10	16%
	Vascular Malformations		6	
Acquired	Infective	Sebaceous cyst	10	17%
		Pyogenic Granuloma	6	
		Hidradenitis Suppurativa	1	
	Inflammatory	Wart	11	11%
	Autoimmune	Vitiligo	1	1%
	Benign	Papilloma	2	3%
		Trichoepithelioma	1	
	Post Traumatic	Keloid	40	40%

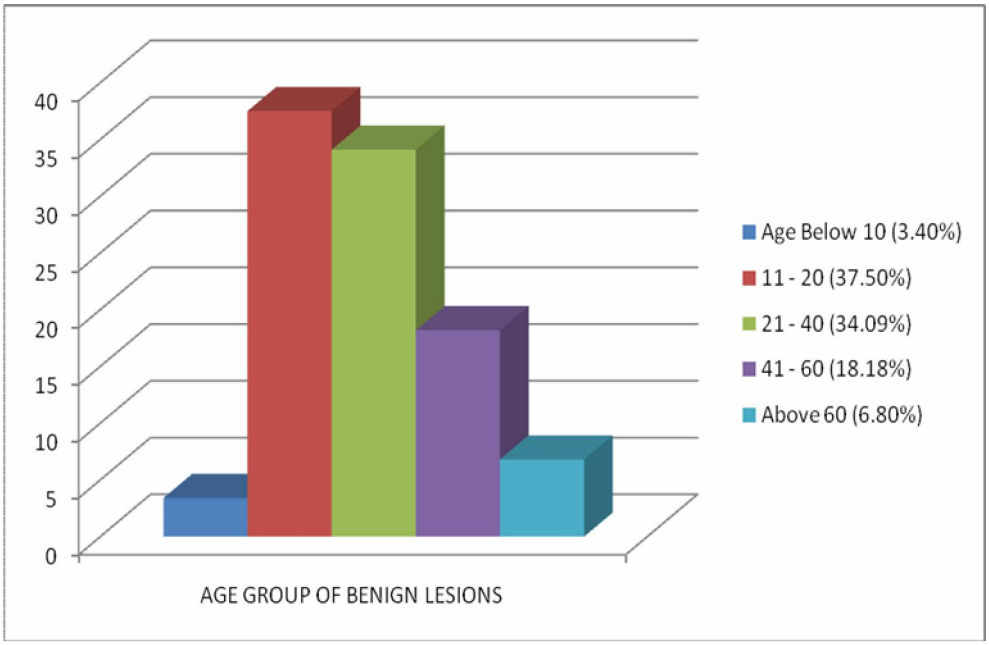
KELOID

OCCURRENCE		NO OF CASES
UNILATERAL		30
BILATERAL		8
SITE	LOBULE	33
	HELIX	5
	MANDIBLE	2
SEX	MALE	4
	FEMALE	36
AGE GROUP	<10	1
	11 - 20	20
	20 - 40	19

TYPE OF MALIGNANT LESIONS

Type		No Of Cases	Percentage
Non-Melanocytic	Basal Cell Carcinoma	9	9%
	Squamous Cell Carcinoma	2	2%
Melanocytic	Malignant Melanoma	1	1%

AGE GROUP OF BENIGN LESIONS



AGE GROUP OF BENIGH LESIONS

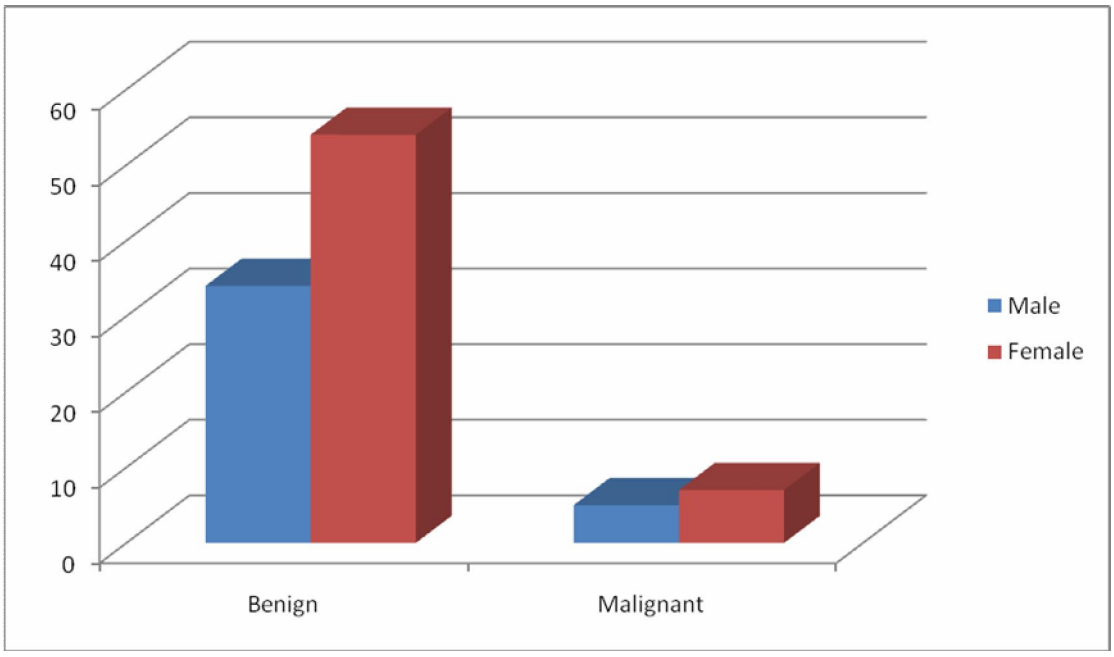
AGE GROUP IN YEARS	NO OF CASES	PERCENTAGE
<10	3	3.40%
11 – 20	33	37.50%
21 - 40	30	34.09%
41 - 60	16	18.18%
>60	6	6.80%

AGE GROUP OF MALIGNANT LESIONS

TYPE	AGE GROUP IN YEARS	NO OF CASES	PERCENTAGE
Basal Cell Carcinoma	40 – 50	2	22%
	>50	7	78%
Squamous Cell Carcinoma	>60	2	100%
Malignant Melanoma	20 – 40	1	

SEX RATIO

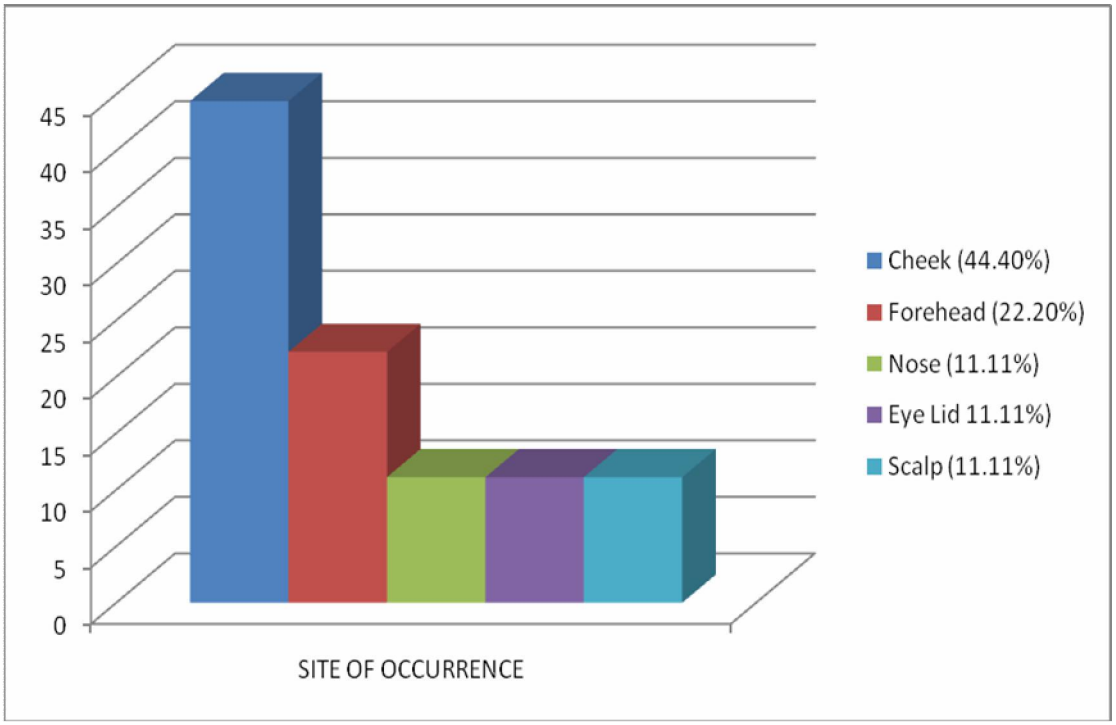
TYPE OF LESIONS	SEX	NO OF CASES
Benign	Male	34
	Female	54
Malignant	Male	5
	Female	7



BASEL CELL CARCINOMA - SITE OF OCCURENCE

SITE	NO OF CASES	PERCENTAGE
Cheek	4	44.4%
Forehead	2	22.2%
Nose	1	11.11%
Eye Lid	1	11.11%
Scalp (Post Auricular)	1	11.11%

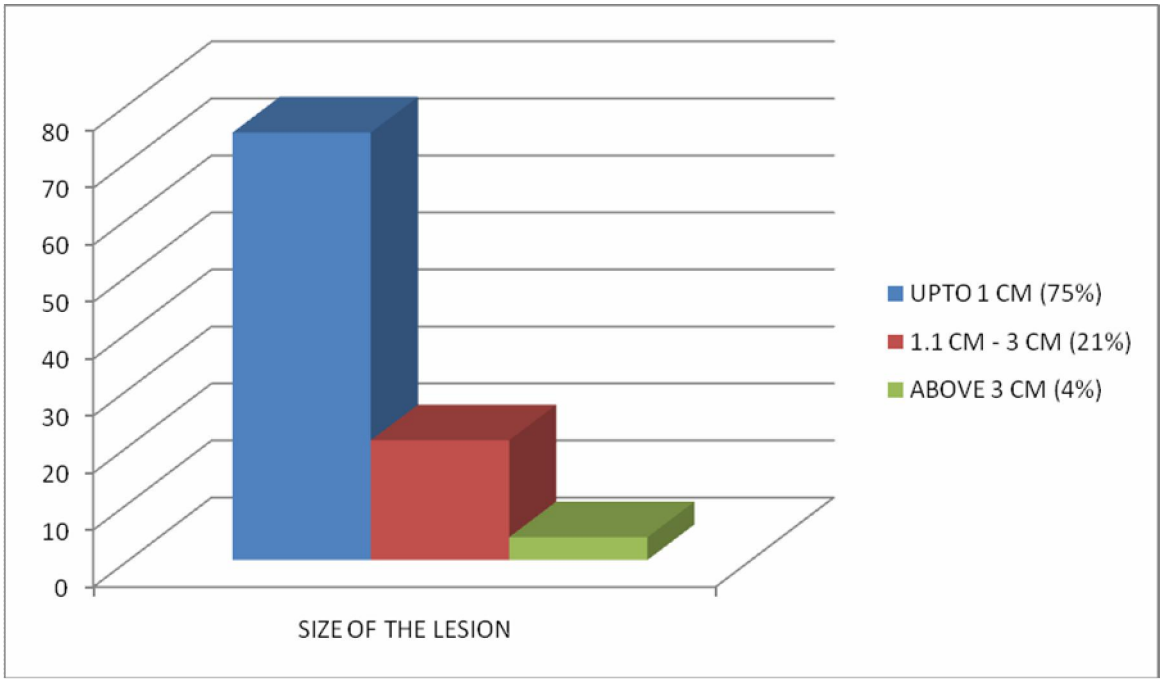
BASEL CELL CARCINOMA – SITE



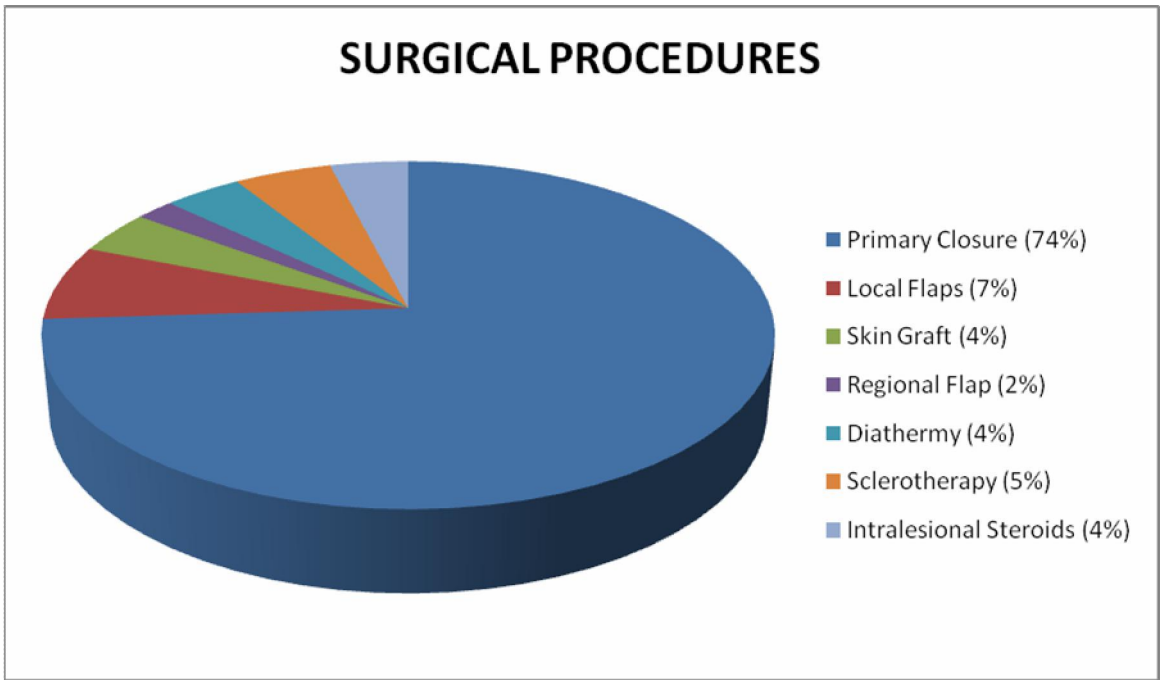
SIZE OF THE LESION

SIZE (CM)	NO OF CASES	PERCENTAGE
<1	75	75%
1.1 TO 3	21	21%
> 3	4	4%

SIZE OF THE LESION



SURGICAL PROCEDURES



SURGICAL PROCEDURES – BENIGN LESIONS

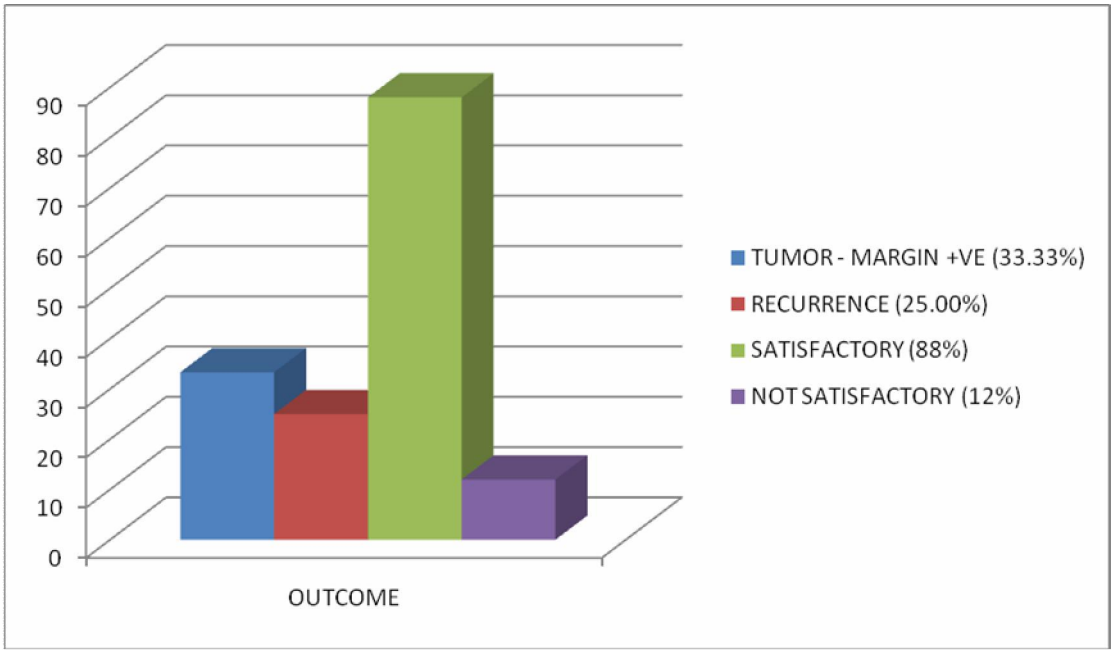
Type			No Of Cases	Treatment
Congenital	Nevi		10	Excision And Primary Closure
	Vascular Malformations		1	Excision And Primary Closure
			5	Intra Lesional Inj. Sclerosing Agents
Acquired	Infective	Sebaceous cyst	10	Excision And Primary Closure
		Pyogenic Granuloma	6	
		Hidradenitis Suppurativa	1	
	Inflamatory	Wart	5	Excision And Primary Closure
			4	Diathermic Excision
			1	Excision And Skin Grafting
			1	Excision And Limberg Flap Cover
	Autoimmune	Vitiligo	1	Excision And Advancement Flap
	Benign	Papilloma	2	Excision And Primary Closure
		Trichoepithelioma	1	Excision And Skin Grafting
	Post Traumatic	Keloid	34	Intralesional Excision And Primary Closure
			1	Excision And Skin Grafting
			1	Excision And Primary Closure
			4	Intra Lesional Steroids Inj.

SURGICAL PROCEDURES – MALIGNANT LESIONS

Type		No Of Cases	Treatment
Non-Melanocytic	Basal Cell Carcinoma	1	Wide Local Excision And Full Thickness Skin Grafting
		2	Wide Local Excision And Median Forehead Flap Cover
		3	Wide Local Excision And Local Flap Cover 1. Limberg Flap 2. Scalp Rotation Advancement Flap (Margin Positive) 3. Cheek Rotation Advancement Flap
		4	Wide Local Excision And Primary Closure
	Squamous Cell Carcinoma	1	Wide Local Excision And Mucosal Advancement Flap
		1	Wide Local Excision And Primary Closure
Melanocytic	Malignant Melanoma	1	Wide Local Excision And Skin Cover

OUTCOME

TYPE		NO OF CASES	PERCENTAGE
Tumor – Margin +Ve		4	33.33%
Recurrence		3	25.00%`
Aesthetic	Satisfactory	88	88.00%
	Not Satisfactory	12	12.00%



DISCUSSION

Evaluation of patients with cutaneous lesions. 100 patients have been studied. Benign cases were 88 (88%) and maligmant ones were 12 (12%).

Patients with benign cutaneous lesions attending our department were more because lesions in face, neck and scalp are easily visible. Hence early medical attention is sought by them. Better aesthetic results motivates them to attend Plastic surgery Department. Among these cutaneous lesions female(61%) patients are more affected than male(39%). Benign cutaneous lesions occur mostly in young individuals (72% between 11 to 40 years). The youngest patient with benign cutaneous lesion who attended our department was 3.5 year old girl with Hemangioma cheek who underwent excision and primary closure. Benign cutaneous lesions like Nevi, Wart and Sebaceous cyst occurs in old age also (more than 40 years 25%).

In the benign cutaneous lesions 40% cases are keloids of the earlobe. In this category the youngest female with Keloid was 6 years. She had keloid earlobule. Studying the occurrence of Keloids, females were 36 and males 4. Among these unilateral Keloid lesions observed in 30 cases and bilateral in 8 cases. Maximum site of occurrence was lobule

(33 cases), helix (5 cases) and mandible (2 cases). Keloid earlobe attending our department were between 10 to 40 years (50% in 11 – 20 years, 49% in 21 to 40 years). Mandibular area, keloids were post traumatic and post burn in etiology and excision with primary closure and SSG were done respectively.

Next to keloid, congenital lesions are common. 16% (10% Nevi and 6% hemangioma and vascular malformations). Here male and female were equally affected. Youngest presentation was 3.5 years and at 40 years was the oldest. For Hemangiomas sclerosant therapy was advocated in 5 patients and 1 patient had total excision and primary closure. In the nevi group most of the lesions were less than 1 cm hence excision and primary closure done in RSTL or wrinkle lines. One patient with nevi had excision and slide swing flap cover.

Next to congenital patients infective lesions like sebaceous cyst and pyogenic granuloma accounted for 16% cases which were excised and the defect closed primarily. Here the incision was planned in such a way that the future scar comes in the RSTL or wrinkle lines or anatomical junction sites.

Next to infective lesions the viral inflammatory wart stands in the line which is 10%; less than 1cm in size, being the major lesion. Excision

and primary closure was done in 4 patients, 3cm veruccous growth in the scalp was excised after wedge biopsy and covered with SSG. One female patient with Wart above the right eyebrow in the forehead was excised and local Limberg flap cover given.

In malignant lesions, basal cell casinoma occurred in the age group 40 to 70 years that coincides with the other studies in the literature review (95% of BCC occurs between 40 to 70 years). BCC ratio between male and female were 1:2. Squamous cell carcinoma patients were manual labourers with smoking habits and found to be above 60 years of age. Patient who had melanoma of the scalp was 30 years old for whom wide local excision and temporary skin cover given. Biopsy revealed amelanotic melanoma with margins positive for tumor cells. Patient had further treatment in the oncology department. Site analysis of BCC showed, cheek involvement in 44%, forehead and periorbital area in 22% each and periauricular area in 11% of cases.

74% cases had excision and primary closure (70 benign and 4 malignant). Because majority of the lesions presented early with size of the lesion around 1cm, benign lesions did not necessitate marginal clearance and in elderly patients with lax skin. Early surgery was

planned in such a way that the future scar was in the natural skin crease line / RSTL and did not distort the anatomical landmarks and symmetry.

The incision and future scar were hidden by placing them at the junction of aesthetic units.

Local flaps were used in 8% of patients to cover the post excision defect (ie 3 benign and 5 malignant lesions). Local flaps were planned in these patients for the following advantages of same colour, texture, and same operative field. Secondary defects were also closed primarily. These can be done as OP procedure and overall gave better aesthetic outcome.

Skin grafting was done in 4 patients. One patient had FTSG for the forehead defect and three for scalp defect. Both did not give satisfying results. Patients with scalp lesion were willing for future tissue expander reconstruction to correct post surgical alopecia. BCC of the forehead, reconstructed with FTSG did not show good aesthetic result and the biopsy report showed inadequate marginal clearance. Hence wide local excision and bilateral scalp rotation advancement flap was given to cover the defect which gave better aesthetic results and the margins were tumor free.

Regional flap cover was given to 2 patients. BCC in the medial periorbital region was managed with wide local excision and reconstructed with median forehead flap with advantage of same colour, texture with a satisfied aesthetic outcome.

Intralesional sclerosants and steroids for hamangioma and keloids were given as primary mode of treatment to reduce the size of the lesion and secondary treatment as debulking for hamangiomas and intra lesional excision for the keloids were done.

To analyse the overall outcome in malignant lesions biopsy showed margin positive in 4 cases out of 12 malignant cutaneous lesions and 3 recurrence patients were in the H zone of BCC occurrence which also coincides with the literature. Aesthetic outcome was analysed and 88% patients were satisfied and 12% had no satisfaction.

CONCLUSION

In the cutaneous lesions of head and neck region seen in our study majority were benign (88%) and malignant lesions were only 12%.

In the benign cases aetiology of the lesions in the order of incidence were: post traumatic keloid 40%, congenital nevi and vascular malformations 16%, infective sebaceous cyst and pyogenic granuloma 16%, inflammatory wart 11%, papilloma 2%, trichoepithelioma 1% and vitiligo 1%.

Benign lesions occur in the age group of 10 – 40 years (72%) and malignant lesions were above 40 years.

Females with benign lesions were a majority (54) and 34 were males.

Majority of the malignant cutaneous lesions were basel cell carcinoma and majority occurs between 40 – 70 years with female preponderance.

Overall surgical procedures done for benign and malignant lesions were as follows.

75% of patients had excision and primary closure. 8% of the patients had excision and local flap cover. 2% of the patients had excision and regional flap cover. 2% of the patients had excision and skin grafting. 4% of patients had diathermy excision for wart. 5% of the patients had intralesional sclerosant injection for hemangiomas and 4% of the patients had intralesional steroids for keloid of earlobule.

In the outcome analysis, 4 patients had tumor margin positive. They underwent secondary surgical procedures. Recurrence in 3 patients of malignant lesions had further resection and reconstruction done.

Satisfactory aesthetic outcome observed in 88% of patients and unsatisfactory in 12 patients.

Keloid patients were advised to follow scar massage therapy, steroid injection in suture lines or silicon gel sheeting after intralesional excision of keloids.

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PROFORMA

Sl No Name Age Sex Occupation

Habits

Main complaint

Duration of illness

Previous treatment

Examination

Lesion site Size

Any other change

Surgery Done

Post Operative Period

Biopsy

Follow up

Satisfactory Or Not Satisfactory

MASTER CHART

Sl No	Name	Age	Sex	Ip/Op No	Date of Surgery	Size (Cm)	Diagnosis	Surgical Procedure	Follow Up	Satisfied Or Not Satisfied
1	Krishnamurthy	70	Male	25028	25/09/2009	.5	Wart Infraorbital Region	Excision Primary Closure		Satisfied
2	Kaleeswaran	12	Male	22661	25/09/2009	.5	Keloid Earlobe	Excision Primary Closure		Satisfied
3	Bhuvaneswari	38	Female	593	14/10/2009	.75	Keloid Left Earlobe	Excision Primary Closure		Satisfied
4	Jayanthi	23	Female	543	14/10/2009	.75	Keloid Left Earlobe	Excision Primary Closure		Satisfied
5	Shenbagam	12	Female	613	28/10/2009	.75	Bilateral Keloid Earlobe	Excision Primary Closure		Satisfied
6	Krishnan	62	Male	22271	03/10/2009	1.5	Bcc Near Right Medial Canthus	Wle, Median Forehead Flap		Satisfied
7	Trivedi	30	Female	24432	02/11/2009	8	Melanoma Scalp	Wle And Ssg	Margin +Ve	Not Satisfied
8	Jansi	22	Female	688	25/11/2009	2.75	Keloid Right Helix	Excision And Pc		Satisfied
9	Abishek	22	Male	684	25/11/2009	1	Nevi Right Lateral Nose	Excision And Slide Swing Flap		Satisfied
10	Sundari	65	Female	29228	22/12/2009	2	Bcc Nose	Wle Median Forehead Flap	Recurrence	Satisfied
11	Sudarsan	20	Male	1469	16/12/2009	.75	Keloid Left Ear	Excision Pc		Satisfied
12	Parthasarathy	10	Male	741	13/01/2010	.75	Seb. Cyst Malar	Excision Pc		Satisfied
13	Prabhakaran	42	Male	751	13/01/2010	1	Seb. Cyst Right Ear	Excision Pc		Satisfied

Sl No	Name	Age	Sex	Ip/Op No	Date of Surgery	Size (Cm)	Diagnosis	Surgical Procedure	Follow Up	Satisfied Or Not Satisfied
14	Sabitha Begam	16	Female	45	10/02/2010	.5	Pyogenic Granuloma Neck	Excision Pc		Satisfied
15	Thankappan	65	Male	107	03/03/2010	1	Seb.Horn Left Eyebrow	Excision		Satisfied
16	Balan	63	Male	127	17/03/2010	.75	Wart Left Cheek	Excision		Satisfied
17	Jayalakshmi	72	Female	10995	17/03/2010	1	Bcc Left Cheek	Wle And Pc	Margin +Ve	Not Satisfied
18	Deepa	19	Female	56	24/03/2010	.75	Keloid Bilateral Earlobe	Excision Pc		Satisfied
19	Rajammal	75	Female	153	24/03/2010	1	Pyogenic Granuloma Nose	Excision Pc	Pylo Matrisomia	Satisfied
20	Haridas	65	Male	4588	24/03/2010	2	Ca Lower Lip	Wle Mucosal Adv Flap	Scc Well Diff	Not Satisfied
21	Rajendran	53	Male	178	05/04/2010	1	Papilloma Cheek	Excision Pc	Fibro Epi Polyp	Satisfied
22	Selvi	30	Female	6552	07/04/2010	.75	Keloid Left Year Lobe	Excision Pc		Satisfied
23	Sheeba	13	Female	72292	26/04/2010	.75	Keloid Right Year Lobe	Excision Pc		Satisfied
24	Lokesh	13	Male	8383	07/05/2010	3	Keloid Left Mandble	Excision Pc		Satisfied
25	Karthk	19	Male	260	19/05/2010	1	Nevi Forehead	Excision Pc		Satisfied

Sl No	Name	Age	Sex	Ip/Op No	Date of Surgery	Size (Cm)	Diagnosis	Surgical Procedure	Follow Up	Satisfied Or Not Satisfied
26	Chamundi	42	Female	322	09/06/2010	.75	Wart Scalp	Excision Pc		Satisfied
27	Radha	20	Female	373	07/07/2010	.75	Keloid Left Ear Lobe	Excision Pc		Satisfied
28	Kuppu	36	Female	174	14/07/2010	1	Keloid Right Ear Lobe	Excision Pc		Satisfied
29	Krishna	47	Male	1850	23/06/2010	3	Vasc Mal	Sclerosant		Satisfied
30	Revathi	20	Female	416	28/07/2010	.75	Keloid Right Ear Lobe	Excision Pc		Satisfied
31	Krishnamurthi	41	Male	428	04/08/2010	1.5	Bcc Right Cheek	Wle And Pc	Margin Negative	Satisfied
32	Nagalakshmi	25	Female	440	07/08/2010	2	Vitiligo Forehead	Excision Adv Flap		Satisfied
33	Jaya	20	Female	462	03/09/2010	.75	Keloid Right Ear	Excision Pc		Satisfied
34	Lavanya	15	Female	499	17/09/2010	.75	Keloid Left Ear	Excision Pc		Satisfied
35	Ponnurangan	58	Male	498	17/09/2010	.5	Wart Right Cheek	Excision Pc		Satisfied
36	Anandakishore	33	Male	531	24/09/2010	1	Pyogenic Granuloma	Excision Pc		Satisfied
37	Hamesh	12	Male	843	08/10/2010	.75	Papilloma Right Cheek	Excision Pc		Satisfied

Sl No	Name	Age	Sex	Ip/Op No	Date of Surgery	Size (Cm)	Diagnosis	Surgical Procedure	Follow Up	Satisfied Or Not Satisfied
38	Chandrasekar	61	Male	553	11/10/2010	1	Seb.Horn Left Side Neck	Excision Pc		Satisfied
39	Jothi	64	Female	560	13/10/2010	.75	Wart Fore Head	Excision Limberg Flap		Satisfied
40	Tamil Mani	58	Male	568	18/10/2010	1.5	Bcc Below Left Eye	Wle And Pc		Satisfied
41	Anthoniammal	24	Female	572	20/10/2010	.75	Nevi Left Cheek	Excision Pc		Satisfied
42	Mani	55	Male	580	22/10/2010	1	Seb. Cyst	Excision Pc		Satisfied
43	Vaishnavi	16	Female	516	25/10/2010	1	Keloid Left Ear	Excision Pc		Satisfied
44	Kalpana	24	Female	592	29/10/2010	.75	Keloid Left Ear	Excision Pc		Satisfied
45	Geetha	28	Female	451	08/11/2010	.75	Keloid Left Ear	Excision Pc		Satisfied
46	Renuka	28	Female	608	15/11/2010	1	Keloid Both Ear	Excision Pc		Satisfied
47	Harikrishnan	54	Male	30488	01/12/2010	2	Hid. Suppurativa	Excision Pc		Satisfied
48	Deshbhai	23	Male	341	01/12/2010	.75	Seb. Cyst Left Face	Excision Pc		Satisfied
49	Kannan	16	Male	2465	09/12/2010	3	Hemangioma Lower Lip	Sclero Therapy		Not Satisfied

Sl No	Name	Age	Sex	Ip/Op No	Date of Surgery	Size (Cm)	Diagnosis	Surgical Procedure	Follow Up	Satisfied Or Not Satisfied
50	Ashwini	19	Female	7	07/01/2011	.75	Keloid Left Ear	Excision Pc		Satisfied
51	Jayanthi	25	Female	35	04/02/2011	1	Keloid Right Ear	Excision Pc		Satisfied
52	Padma	32	Female	53	14/02/2011	1	Keloid Right Ear	Excision Pc		Satisfied
53	Thangaraj	67	Male	38	18/02/2011	.75	Wart	Excision Diathermy		Satisfied
54	Sasi Kani	16	Female	50	23/02/2011	3	Seb.Cyst Neck	Excision Pc		Satisfied
55	Vennila	17	Female	648	23/02/2011	.75	Keloid Left Ear	Excision Pc		Satisfied
56	Filomina	42	Female	70	28/02/2011	2	Bcc Cheek	Wle Pc		Not Satisfied
57	Raja	29	Male	686	02/03/2011	.75	Keloid Both Ear	Excision Pc		Satisfied
58	Praveena	18	Female	3	13/03/2011	.75	Keloid Both Ear	Excison Pc		Satisfied
59	Rose	26	Female	4368	21/03/2011	10	Keloid Mandible Neck	Excision Ssg		Not Satisfied
60	Shanthi	30	Female	188	11/05/2011	1	Keloid Left Ear	Excision Pc		Satisfied
61	Lavanya	15	Female	499	01/05/2011	.75	Keloid Left Helix	Excision Pc		
62	Divya	12	Female	669	18/05/2011	.75	Keloid Both Ear	Excision Pc		Satisfied

Sl No	Name	Age	Sex	Ip/Op No	Date of Surgery	Size (Cm)	Diagnosis	Surgical Procedure	Follow Up	Satisfied Or Not Satisfied
63	Shalini	9	Female	11079	25/05/2011	2	Hemangioma Lip	Sclero Therapy		Not Satisfied
64	Mallika	45	Female	204	25/05/2011	2	Bcc Right Ear	Excision Pc		Satisfied
65	Samson Raj	66	Male	205	28/05/2011	1	Seb. Cyst	Excision Pc		Satisfied
66	Nagamani	29	Female	200	28/05/2011	.75	Keloid Left Ear	Intra Lesional Steroid Inj		Satisfied
67	Revathi	25	Female	26695	01/06/2011	1	Nevi	Excision Pc		Satisfied
68	Lavanya	6	Female	11885	03/06/2011	.75	Keloid Left Ear	Excision Pc		Satisfied
69	Vijayalakshmi	23	Female	274	22/06/2011	.75	Pyogenic Granuloma Left Nose	Excision Pc		Satisfied
70	Krishna	18	Male	13466	24/06/2011	3	Haemangeoma Lip	Sclero Therapy		Not Satisfied
71	Sathasivam	50	Male	331	24/06/2011	1	Seb. Cyst Left Ear	Excision Pc		Satisfied
72	Sunnath	18	Female	302	13/07/2011	.75	Keloid Both Ear	Excision Pc		Satisfied
73	Gomathi	11	Female	250	13/07/2011	.5	Keloid Both Ear	Excision Pc		Satisfied
74	Vijayan	34	Male	15089	15/07/2011	3	Wart Scalp	Excision Ssg		Not Satisfied
75	Sathyabhama	38	Female	311	25/07/2011	1	Nevi Face	Excision Pc		Satisfied

Sl No	Name	Age	Sex	Ip/Op No	Date of Surgery	Size (Cm)	Diagnosis	Surgical Procedure	Follow Up	Satisfied Or Not Satisfied
76	Asharaf	23	Female	214	25/07/2011	.75	Keloid Both Ear	Excision Pc		Satisfied
77	Sutha	27	Female	301	01/08/2011	.75	Keloid Left Helix	Excision Pc		Satisfied
78	Vishwanath	20	Male	338	17/08/2011	.5	Nevi Nose	Excision Pc		Satisfied
79	Amritha	40	Female	335	17/08/2011	.5	Nevi Upper Lip	Excision Pc		Satisfied
80	Sangeetha	12	Female	377	14/09/2011	1	Pyogenic Granuloma	Excision Pc		Satisfied
81	Gajapathi	20	Female	383	19/09/2011	.5	Nevi Nose	Excision Pc		Satisfied
82	Imran Khan	19	Male	375	12/10/2011	.75	Nevi Ear	Excision Pc		Satisfied
83	Ragavendra	55	Male	21369	19/10/2011	2	Bcc Fore Head	1.Wle Ftsg 2.Scalp Rot Adv Flap	Margin Positive	Satisfied
84	Krishnan	70	Male	22789	24/10/2011	1	Ca Lower Lip	Wle , Primary Closure		Not Satisfied
85	Poongavanam	38	Female	23749	28/10/2011	1	Bcc Right Eye Brow	Wle Limberg Flap		Satisfied
86	Kavitha	32	Female	429	30/10/2011	.75	Keloid Right Ear	Intra Lesional Steroid Inj.		Satisfied
87	Kamachi	26	Female	2631	14/11/2011	.75	Keloid Left Ear	Intra Lesional		Satisfied

Sl No	Name	Age	Sex	Ip/Op No	Date of Surgery	Size (Cm)	Diagnosis	Surgical Procedure	Follow Up	Satisfied Or Not Satisfied
								Steroid Inj.		
88	Poonkodi	21	Female	469	18/11/2011	.75	Keloid Left Ear	Excision Pc		Satisfied
89	Vijaya	34	Female	468	18/11/2011	.75	Keloid Right Ear	Intra Lesional Steroid Inj		Satisfied
90	Jaya	58	Female	25734	21/11/2011	1.5	Bcc Left Nose	Wle Cheek Rot Adv Flap	Margin Positive	Not Satisfied
91	Sundar	20	Male	467	09/11/2011	2	Tricho Epithelioma	Excision Ssg		Satisfied
92	Kuppusamy	62	Male	503	02/12/2011	1.5	Wart Lower Lip	Excision Pc		Satisfied
93	Karpagam	50	Female	528	14/12/2011	.5	Hyper Kerototic Papule	Excision Pc		Satisfied
94	Ganapathy	46	Male	530	14/12/2011	1	Pyogenic Granuloma	Excision Pc		Satisfied
95	Rajendra Babu	52	Male	11	11/01/2012	1	Wart Neck	Diatherny		Satisfied
96	Mekala	30	Female	29	13/01/2012	.5	Nevi Nose	Excision Pc		Satisfied
97	Loganya	42	Female	31	20/01/2012	1	Fibroma	Excision Pc		Satisfied
98	Sindhu	3.5	Female	2380	03/02/2012	2	Hemangioma Right Cheek	Excision Pc		Satisfied
99	Dhananjayan	24	Male	421	28/10/2011	4	Venous Malf.	Sclero Therapy And Debulking		Satisfied
100	Nisha	13	Female	64	15/02/2012	.5	Keloid Right Nose	Excision Pc		Satisfied

BASAL CELL CARCINOMA

WIDE LOCAL EXCISION – LIMBERG FLAP

BASAL CELL CARCINOMA

WIDE LOCAL EXCISION – SKIN GRAFT

RECURRENCE

WIDE LOCAL EXCISION (CHEEK ROTATION FLAP)

HEMANGIOMA

EXCISION – PRIMARY CLOSURE

NEVI

EXCISION – PRIMARY CLOSURE

BASAL CELL CARCINOMA – NODULO CYSTIC

WIDE LOCAL EXCISION – PRIMARY CLOSURE

TRICHOEPITHELIOMA

EXCISION – SKIN GRAFT

NEVI

EXCISION – PRIMARY CLOSURE

KELOID

INTRALESIONAL EXCISION

BASAL CELL CARCINOMA

WIDE LOCAL EXCISION – MEDIAN FOREHEAD FLAP

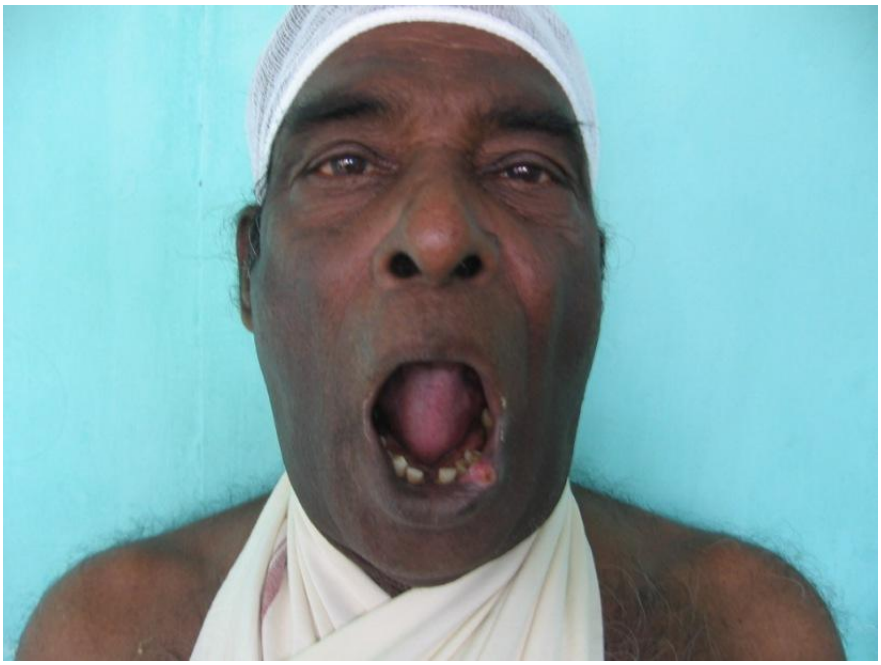
BASAL CELL CARCINOMA - RECURRENCE

WIDE LOCAL EXCISION – MEDIAN FOREHEAD FLAP

BASAL CELL CARCINOMA

WIDE LOCAL EXCISION – PRIMARY CLOSURE

CARCINOMA – LIP(SCC)



WIDE LOCAL EXCISION – PRIMARY CLOSURE

NEVI

EXCISION – SLIDE SWING FLAP[4]

BASAL CELL CARCINOMA

WIDE LOCAL EXCISION - FTSG

MARGIN POSITIVE

WIDE LOCAL EXCISION

BILATERAL SCALP ROTATION FLAP